IN THE CLAIMS:

The following claims are currently pending in the present application:

Claim 1 (original) A photoelectric receiver circuit for converting an optical signal to an electrical signal, comprising:

first and second transimpedance amplifiers,

a photodiode having a first end connected to an inverting input of the first transimpedance amplifier and a second end connected to an inverting input of the second transimpedance amplifier,

a differential amplifier having inputs, AC coupled, to outputs of the first and second transimpedance amplifiers, and

wherein when higher and lower voltages are respectively applied to the non-inverting inputs of the first and second transimpedance amplifiers, a substantially constant bias voltage is maintained on the photodiode.

Claim 2 (original) The photoelectric receiver circuit of claim 1 in which the transimpedance amplifiers each comprise an operational amplifier having an inverting input, a non-inverting input and an output, and a feedback resistor connected between the inverting input and the output.

Claim 3 (original) The photoelectric receiver circuit of claim 2 comprising a DC current source supplying a DC current to the inverting input of each operational amplifier.

Claim 4 (original) The photoelectric receiver circuit of claim 2 wherein at least one of the feedback resistors is a variable resistor.

Claim 5 (original) The photoelectric receiver circuit of claim 4 wherein both of the feedback resistors are variable resistors.

Claim 6 (original) The photoelectric receiver circuit of claim 3 wherein the level of DC current applied to each inverting input is controlled by the output of the respective transimpedance amplifiers through a low pass filter.

Claim 7 (original) An optical transceiver comprising a photoelectric receiver circuit for converting an optical signal to an electrical signal, the photoelectric receiver circuit comprising:

first and second transimpedance amplifiers,

a photodiode having a first end connected to an inverting input of the first transimpedance amplifier and a second end connected to an inverting input of the second transimpedance amplifier, and

a differential amplifier having inputs, AC coupled, to outputs of the first and second transimpedance amplifiers,

two voltages for applying a bias voltage to the photodiode,

wherein when higher and lower voltages are respectively applied to the non-inverting inputs of the first and second transimpedance amplifiers, a substantially constant bias voltage is maintained on the photodiode

Claim 8 (original) The optical transceiver of claim 7 in which the transimpedance amplifiers each comprise an operational amplifier having an inverting input, a non-inverting input and an output, and a feedback resistor connected between the inverting input and the output.

Claim 9 (original) The optical transceiver of claim 8 comprising a DC current source supplying a DC current to the inverting input of each operational amplifier.

Claim 10 (original) The optical transceiver of claim 8 wherein at least one of the feedback resistors is a variable resistor.

Claim 11 (original) The optical transceiver of claim 10 wherein both of the feedback resistors are variable resistors.

Claim 12 (original) The optical transceiver of claim 9 wherein the level of DC current applied to each inverting input is controlled by the output of the respective transimpedance amplifiers through a low pass filter.